

# Whitewings<sup>®</sup>

ASSEMBLY INSTRUCTIONS

FLIGHT INSTRUCTIONS

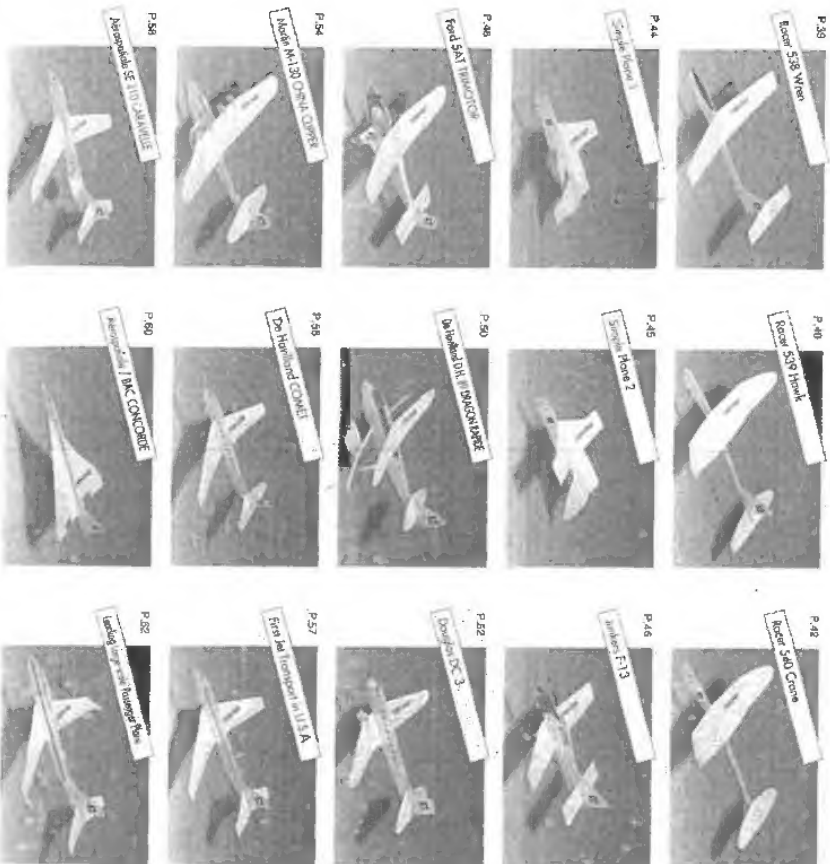
GUIDELINE FOR WHITEWINGS COMPETITION

INTRODUCTION TO PAPER PLANE DESIGN

HOW TO BUILD "WHITEWINGS"

## HISTORY OF PASSENGER PLANE SERIES

## HOW TO BUILD "WHITEWINGS"



5. Place a ruler along the center line of main wing, bend each side up individually to make a dihedral angle of approximately 13° using the dihedral angle gauge.

6. Glue the main wing (9) + (10) firmly to the fuselage.

4. Glue the horizontal stabilizer (11) onto the tab of the vertical stabilizer.

### FINISHING TOUCHES

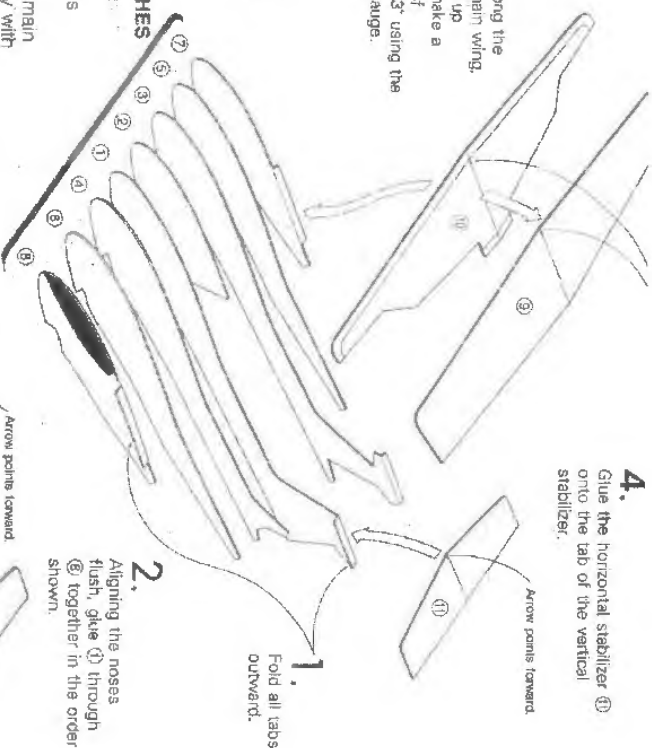
- Give the finishing touches to the plane after it dries thoroughly.
7. Camber the main wings slightly with your fingers.
8. Fold (2) up slightly along the center line and glue it onto the center line of the main wing.
9. Using the dihedral angle gauge, make sure the dihedral angle for the main wing is 13°.
10. View the plane from both the front and the back and straighten any warps or bends in the fuselage and the wings.

### TEST FLIGHT

- Test fly the plane according to the Test Flight instructions for Regular Planes on pages 11 to 13.

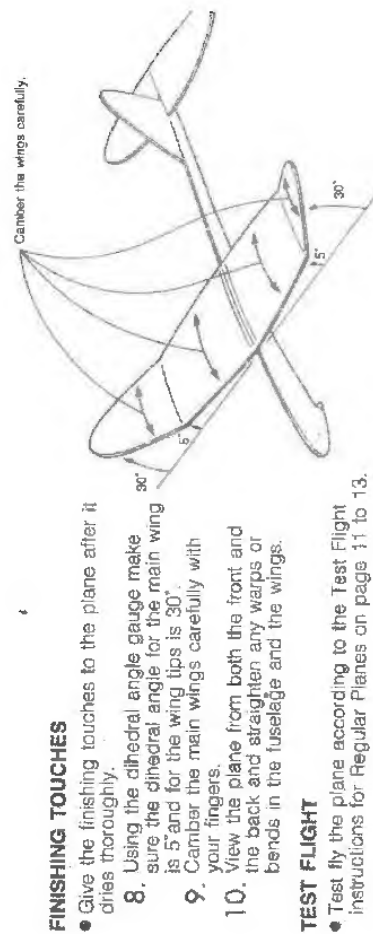
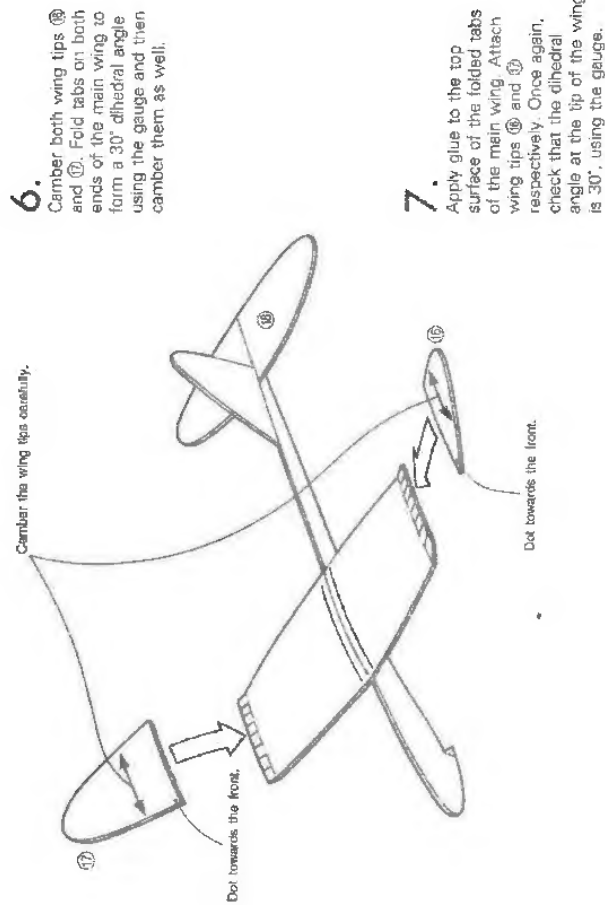
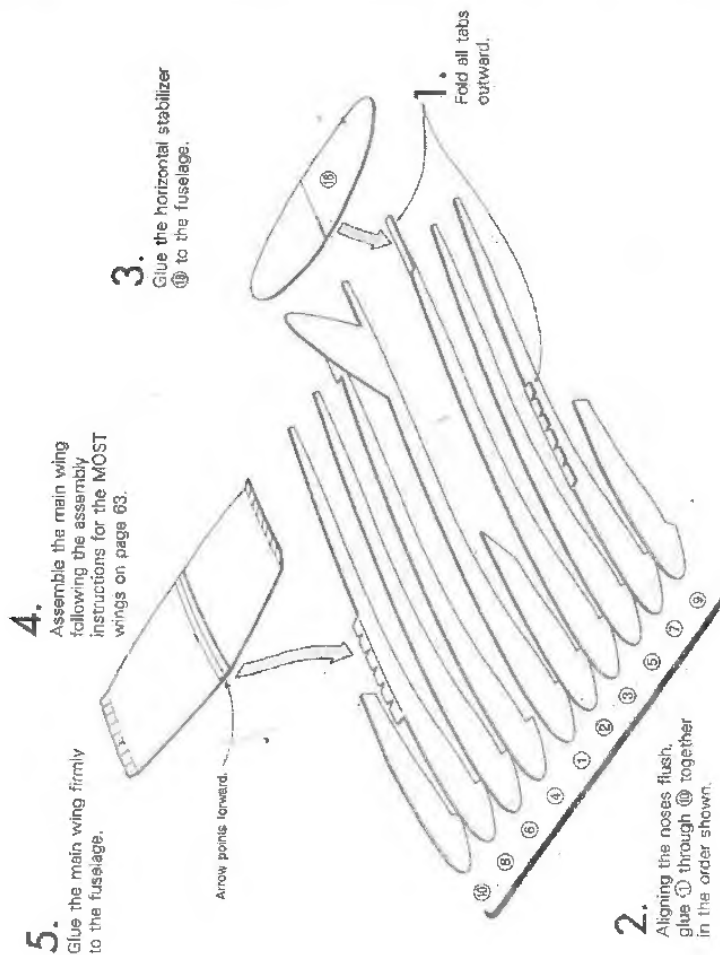
### [NOTE]

As the vertical stabilizer of the plane with T-shape horizontal stabilizer needs to be strong enough to support the horizontal stabilizer on it, this part is designed a little heavier than that of the other type of racer planes. For this reason, the fuselage might bend when the plane crash into the ground so make sure that the fuselage has no bends in it before flying it.



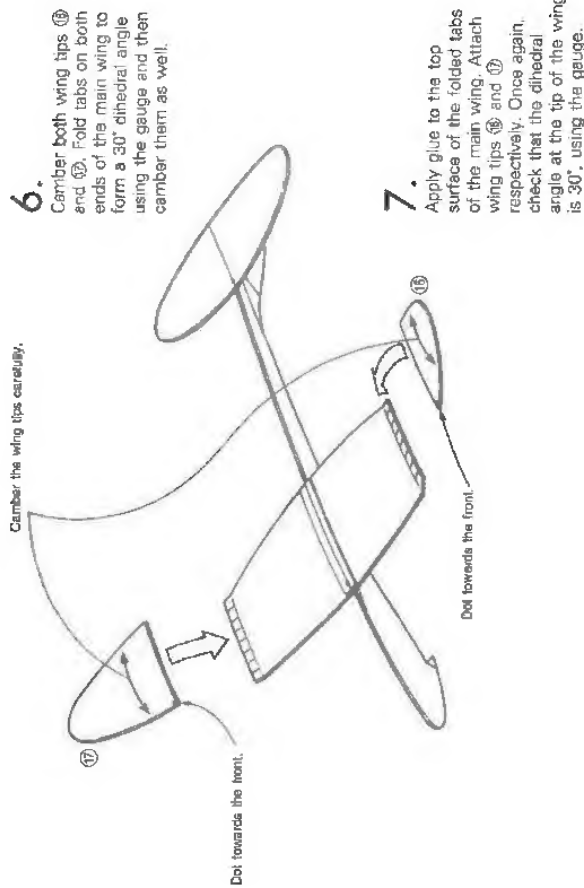
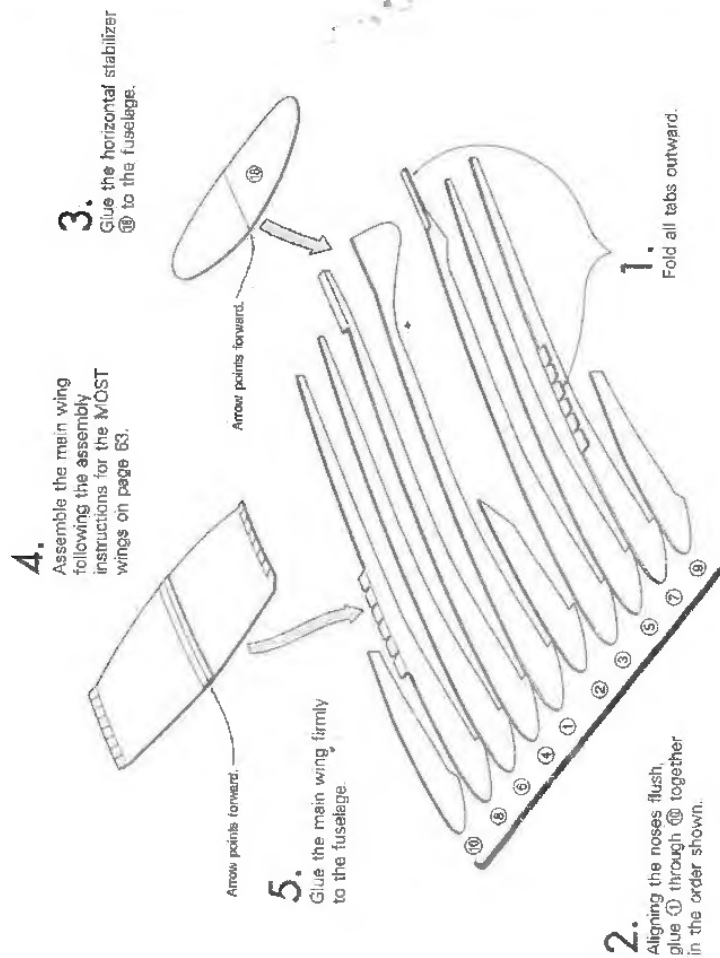
## GLUING INSTRUCTIONS

Glue the parts together in the order indicated.



## GLUING INSTRUCTIONS

Glue the parts together in the order indicated.

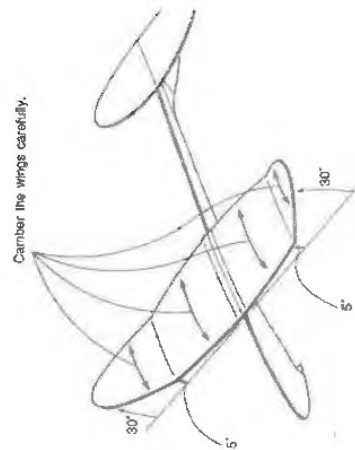


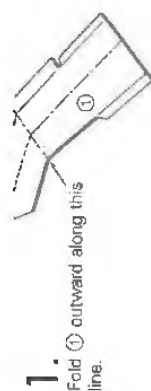
## FINISHING TOUCHES

- Give the finishing touches to the plane after it dries thoroughly.
- 8. Using the dihedral angle gauge make sure the dihedral angle for the main wing is 5° and for the wing tips is 30°.
- 9. Camber the main wings carefully with your fingers.
- 10. View the plane from both the front and the back and straighten any warps or bends in the fuselage and the wings.

## TEST FLIGHT

- Test fly the plane according to the Test Flight instructions for Regular Planes on page 11 to 13.

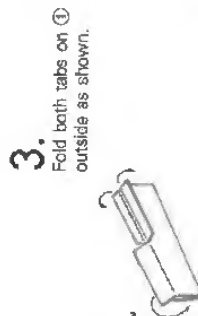




1. Fold ① outward along this line.



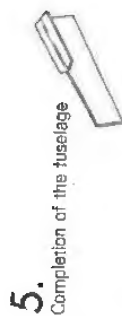
2. Turn up the folded smaller part of ① and fold it inward along the center line.



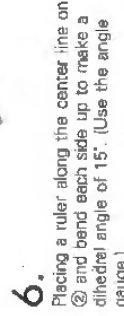
3. Fold both tabs on ① outside as shown.



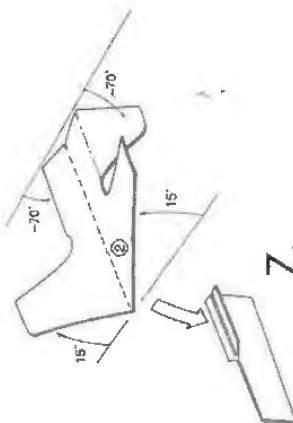
4. Fold the protruding part over the other edge, then attach them with glue or scotch tape.



5. Completion of the fuselage

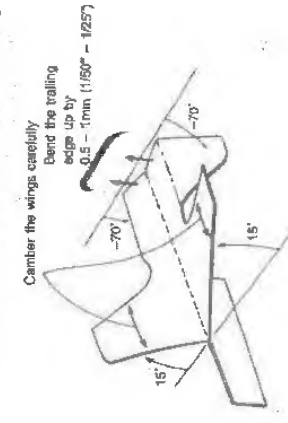


6. Placing a ruler along the center line on ② and bend each side up to make a dihedral angle of 15°. (Use the angle gauge.)



7. Bend each side of the horizontal stabilizer along the long dash and dotted line 70° downward. (Use the dihedral angle gauge.)

8. Spread glue on the tabs on ① and attach them to the underside of the front end of ②



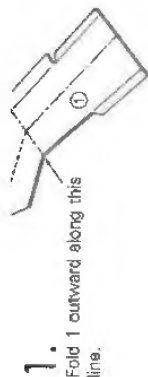
- Center the wings carefully  
Bend the trailing edge up by  
0.5 – 1mm (1/50" – 1/25")

## FINISHING TOUCHES

9. Before the glue dries, fix ① and ② with your fingers carefully to ensure the center lines of both ① and ② are on the straight.
10. Camber the main wing slightly with your fingers.
11. Place the angle gauge at the upsides of the main wing and make sure that the dihedral angle for the main wing is 15°.
12. Bend the trailing edge of the horizontal stabilizer 0.5 – 1mm (1/50 – 1/25") up.
13. Placing the angle gauge at the underside of the horizontal stabilizer make sure that the dihedral angle is -70°.
14. View the plane from the front and the back and straighten any warps or bends in the fuselage and the wings.

## TEST FLIGHT

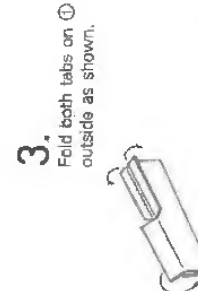
- Test fly the plane according to the Test Flight instructions for Regular Planes on page 11 to 13.



1. Fold 1 outward along this line.



2. Turn up the folded smaller part of ① and fold it inward along the center line.



3. Fold both tabs on ① outside as shown.



4. Fold the protruding part over the other edge, then attach them with glue or scotch tape.

7. Bend each side of the horizontal stabilizer along the long dash and dotted line 70° downward. (Use the dihedral angle gauge.)

## FINISHING TOUCHES

9. Before the glue dries, fix ① and ② with your fingers carefully to ensure the center lines of both ① and ② are on the straight.
10. Camber the main wing slightly with your fingers.
11. Place the angle gauge at the upsides of the main wing and make sure that the dihedral angle for the main wing is 15°.
12. Bend the tips of the horizontal stabilizer 0.5 – 1mm (1/50 – 1/25") up.
13. Placing the angle gauge at the underside of the horizontal stabilizer make sure that the dihedral angle is -70°.
14. View the plane from the front and the back and straighten any warps or bends in the fuselage and the wings.

## TEST FLIGHT

- Test fly the plane according to the test flight instructions for Regular Planes on pages 11 to 13.

features an open design for pilots to gain headwinds in their favor. The projecting horn on the plane nose is the exhaust pipe for the engine.

## GLUING INSTRUCTIONS

Glue the parts together in the order indicated.

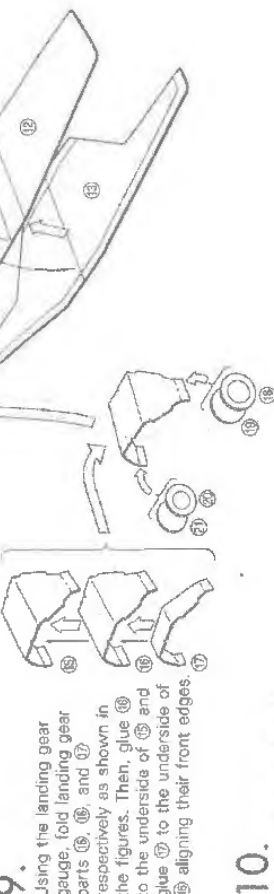
1. Cut out the slit on part ① into which the horizontal stabilizer will be inserted.
2. Insert the horizontal stabilizer ⑭ into the slit of the vertical stabilizer. Then, apply glue on the tabs to fix the horizontal stabilizer, aligning its center line and that of the fuselage. Find the center line of the horizontal stabilizer using the center guidelines.



2. Fold all tabs outward.



9. Using the landing gear gauge, fold landing gear parts ⑮, ⑯, and ⑰ respectively as shown in the figures. Then, glue ⑯ to the underside of ⑮ and glue ⑰ to the underside of ⑯ aligning their front edges.



10. Aligning the front edge of the landing gear ⑮ + ⑯ + ⑰ and that of the main wing, glue the landing gear to the underside of the main wing. Make sure that the center line of the main wing and the cut of the landing gear meet each other.
11. Glue together ⑮ and ⑯, and ⑰ and ⑱ to assemble wheels. (Make sure that each printed side can be seen.) Then, as shown in the figure, glue the wheels to the landing gear respectively, aligning the center of the tab with the center of the wheels.

- Place a ruler along right and left lines on the main wing. Using a dihedral angle gauge, make a dihedral angle of 10°.

Referring to (MUT) on page 20, draw the center line on the underside of the main wing ⑫ + ⑬.



8. Glue the main wing ⑫ + ⑬ firmly to the fuselage aligning their center lines



4. Glue ⑬ to the underside of ⑭. When dry, cut off the protruding portions.



12. Camber the wing tips which have a dihedral angle carefully with your fingers.
13. Placing the dihedral angle gauge at the underside of the main wing, check the dihedral angle for 10°.
14. Placing the gear gauge at the underside of the gear, make sure that the proper degrees are set.
15. View the plane from both the front and the back and straighten any warps or bends in the fuselage and wings.



## FINISHING TOUCHES

- Give the finishing touches to the plane after it dries thoroughly
- 12. Camber the wing tips which have a dihedral angle carefully with your fingers.
- 13. Placing the dihedral angle gauge at the underside of the main wing, check the dihedral angle for 10°.
- 14. Placing the gear gauge at the underside of the gear, make sure that the proper degrees are set.
- 15. View the plane from both the front and the back and straighten any warps or bends in the fuselage and wings.

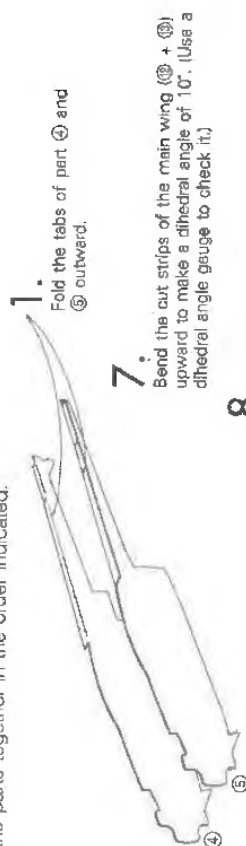
## TEST FLIGHT

- Test fly the plane according to the Test Flight instructions for Regular Planes on pages 11 to 13.

by professor Junkers. The SAT, a larger plane with an engine utilizing more horse power, made its maiden voyage in 1928. More than 100 of the planes were produced and these Ford 5AT TRIMOTOR aircraft are still being used today in charter sightseeing service in the USA.

### GLUING INSTRUCTIONS

Glue the parts together in the order indicated.



1. Fold the tabs of part 4 and 5 outward.

7. Bend the cut strips of the main wing (13 + 14) upward to make a dihedral angle of 10°. (Use a dihedral angle gauge to check it.)

8. Camber the main wing (13 + 14) after the curve of its gluing position on the fuselage.

5. Glue 12 to the underside of 13 aligning their center lines. When dry, cut off the protruding portion of 13.



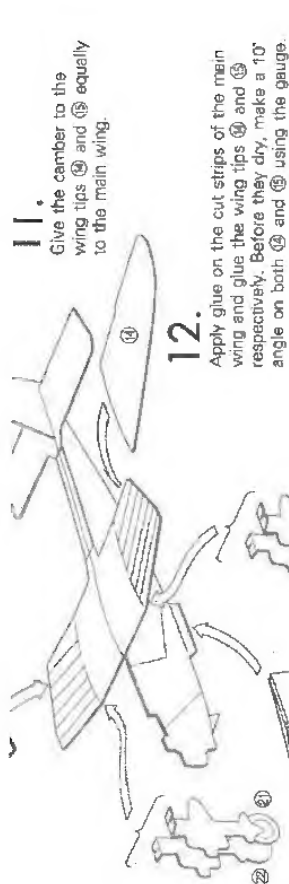
4. Cut the main wing 13 along the solid lines up to the dashed lines.



6. Glue the horizontal stabilizer 10 onto the fuselage.

2. Fold all tabs outward.

3. Aligning the noses flush, glue 1 through 11 together in the order shown.

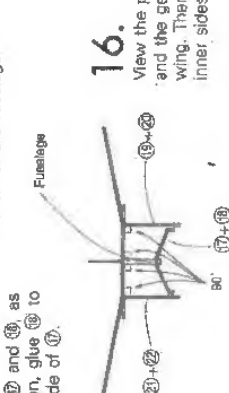


11. Give the camber to the wing tips 14 and 15 equally to the main wing.

12. Apply glue on the cut strips of the main wing and glue the wing tips 14 and 15 respectively. Before they dry, make a 10° angle on both 14 and 15 using the gauge.

15. Fold the upper tabs of the landing gear 16, 17, 18, and 19. Give 16 and 17 together. Then, glue the tabs of the two landing gears to the underside of the main wing. Apply each of them respectively to the front edge of the joint portion of the main wing and the wing tip.

14. Glue 17 + 18 to the underside of the fuselage aligning the front and back notches of 17 + 18 with the center of the fuselage.



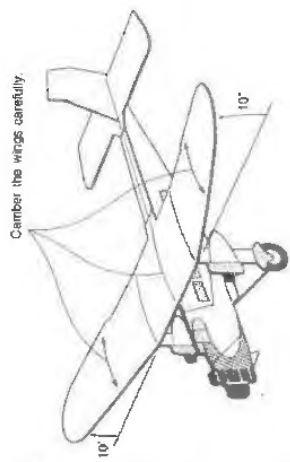
13. Fold parts 17 and 18, as shown. Then, glue 16 to the underside of 17.



16. View the plane from the front and adjust the fuselage and the gears so that they form a 90° angle at the main wing. Then, glue the tabs of 17 + 18 respectively to the inner sides of the gears 16 + 17 and 18 + 19.

### FINISHING TOUCHES

- Give the finishing touches to the plane after it dries thoroughly.
- 17. Camber the wings carefully with your fingers.
- 18. Using the dihedral angle gauge, make sure the dihedral angle for the main wing is 10°.
- 19. View the plane from the front and the back and straighten any warps or bends in the fuselage and wings.

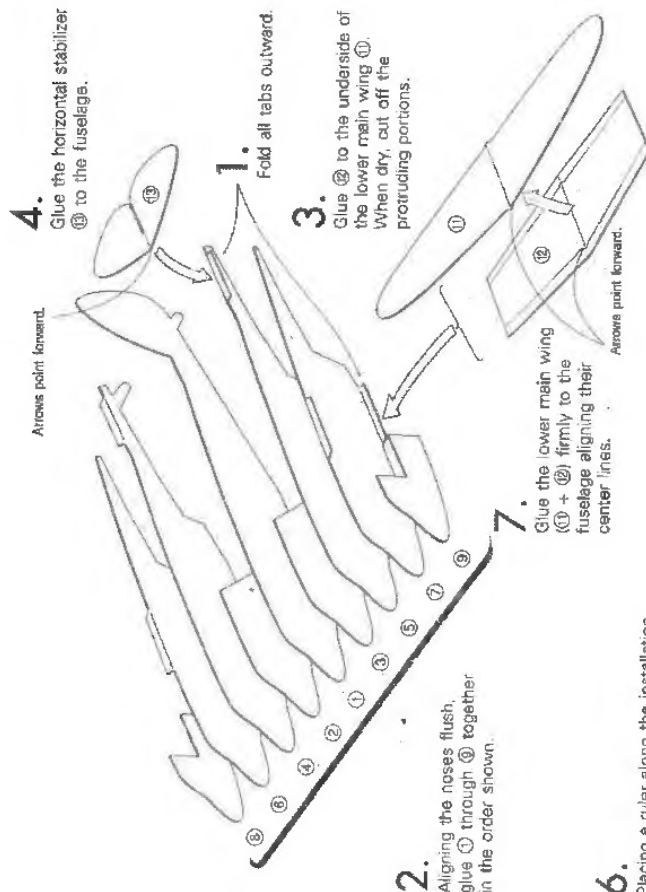


### TEST FLIGHT

- Test fly the plane according to the Test Flight instructions for Regular Planes on pages 11 to 13.



Use one pinhole at each end of the main wing.



4. Glue the horizontal stabilizer (13) to the fuselage.

1. Fold all tabs outward.

3. Glue (12) to the underside of the lower main wing (11). When dry, cut off the protruding portions.

2. Aligning the noses flush, glue (1) through (8) together in the order shown.

7. Glue the lower main wing (11) + (12) firmly to the fuselage aligning their center lines.

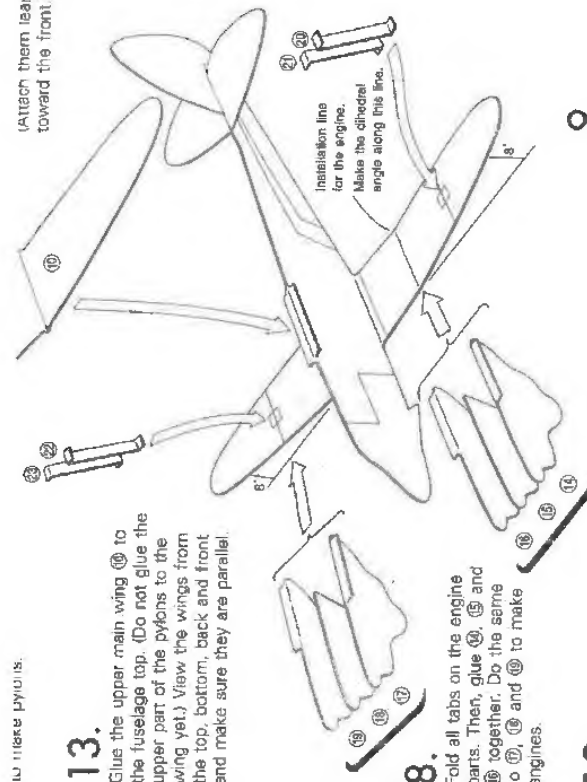
6. Placing a ruler along the installation lines on the main wing, make a dihedral angle of 8° for both sides of the main wing. (Use the dihedral angle gauge.)

5. Draw a center line on the underside of the lower main wing (11) + (12). (Refer to [NOTE].)

[NOTE]  
Make pinholes at both ends of the main wing. Turn the main wing over. Link the pinholes together with a ruler and draw a center line on the unprinted side of the main wing.

to these pylons.

(Attach them leaning slightly toward the front.)



13. Glue the upper main wing (10) to the fuselage top. (Do not glue the upper part of the pylons to the wing yet.) View the wings from the top, bottom, back and front and make sure they are parallel.

8. Fold all tabs on the engine parts. Then, glue (14), (15) and (16) together. Do the same to (17), (18) and (19) to make engines.

12. Placing a ruler along the center line of the upper main wing (10), make a dihedral angle.

9. Attach those engines to the underside of the lower main wing aligning with the installation lines.

# FINISHING TOUCHES

• Give the finishing touches to the plane after it dries thoroughly.

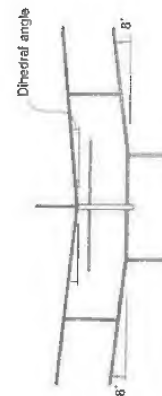
15. Camber both the upper and the lower main wings slightly with your fingers.

16. Using the dihedral angle gauge, make sure the dihedral angle for the lower main wing is 8°.

17. View the plane from both the front and the back and straighten any warps or bends in the fuselage and the wings.

# TEST FLIGHT

• Test fly the plane according to the Test Flight instructions for Regular Planes on pages 11 to 13.



14.

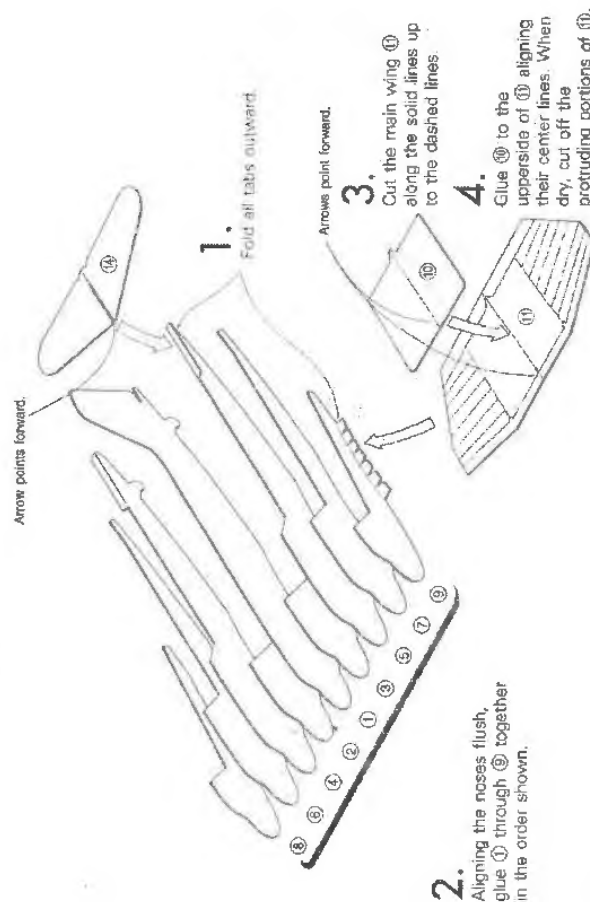
View the plane from the front to check that the fuselage and the pylons are parallel. Then, glue the top part of the pylons to the underside of the upper main wing.



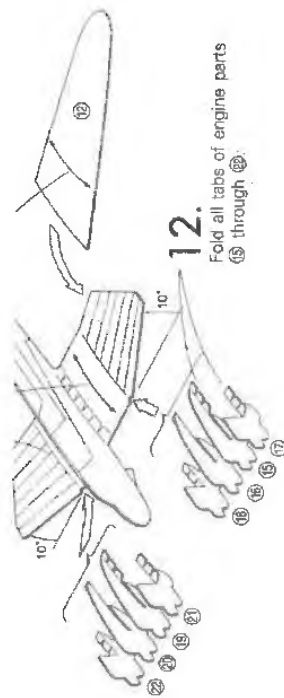
high quality and economical efficiency. An unprecedented production of more than 10,000 planes were made for civilian and military transport use.

### GLUING INSTRUCTIONS

Glue the parts together in the order indicated.



RIGHT ORIGINATOR



### FINISHING TOUCHES

- Give the finishing touches to the plane after it dries thoroughly.

- 15. Camber the main wing carefully with your fingers. As this plane has a sweptback wing, the angle of setting tends to be upward at the wing edges. However, it is wrong. (Refer to Figure 1 on page 10.) Adjust the camber to place an equal angle of setting from the wing root to wing edges.

- 16. Using the dihedral angle gauge, check that the dihedral angle of the wings tips is 10°.

- 17. View the plane from both the front and the back and straighten any warps or bends in the fuselage and the wing.

- 18. Using the dihedral angle gauge, check that the dihedral angle of the wings tips is 10°.

- 19. View the plane from both the front and the back and straighten any warps or bends in the fuselage and the wing.

- 20. Using the dihedral angle gauge, check that the dihedral angle of the wings tips is 10°.

- 21. View the plane from both the front and the back and straighten any warps or bends in the fuselage and the wing.

- 22. Using the dihedral angle gauge, check that the dihedral angle of the wings tips is 10°.

- 23. View the plane from both the front and the back and straighten any warps or bends in the fuselage and the wing.

- 24. Using the dihedral angle gauge, check that the dihedral angle of the wings tips is 10°.

- 25. View the plane from both the front and the back and straighten any warps or bends in the fuselage and the wing.

- 26. Using the dihedral angle gauge, check that the dihedral angle of the wings tips is 10°.

- 27. View the plane from both the front and the back and straighten any warps or bends in the fuselage and the wing.

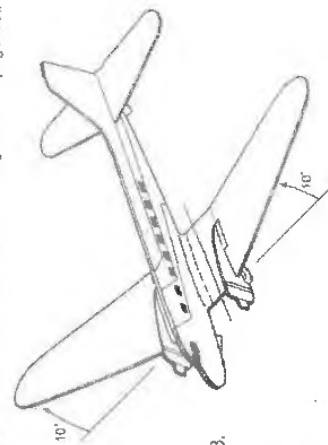
- 28. Using the dihedral angle gauge, check that the dihedral angle of the wings tips is 10°.

- 29. View the plane from both the front and the back and straighten any warps or bends in the fuselage and the wing.

### TEST FLIGHT

- Test fly the plane according to the Test Flight instructions for Regular Planes on pages 11 to 13.

- When test flying your plane, observe its flight carefully. In the case that the plane tends to circle slightly, remember if it turns to the right or to the left. When you want this plane to fly high, launch the plane lifting it to the direction the plane circled so that it climbs up higher for an excellent flight.



and "PHILIPPINE CLIPPER" began scheduled service across the Pacific Ocean in 1936. This transpacific service proved that a large flying boat with multi-engines were well suited in those days to the routes crossing the Pacific Ocean.

### GLUING INSTRUCTIONS

Glue the parts together in the order indicated

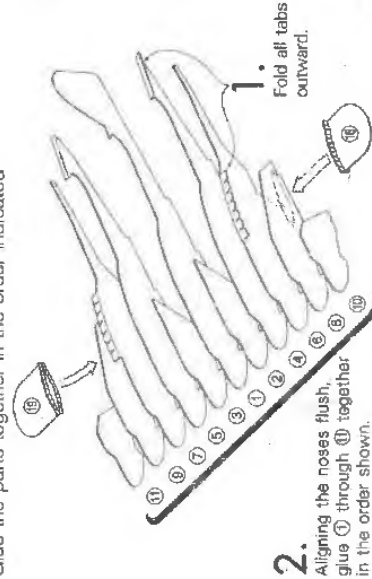
3. Assemble the sponson.

3-1 Fold ⑩ outward along the center line and fold all tabs outward. As a result, the printed side and all the tabs will be facing outward.

3-2 Swell the inside of the two folds of ⑩. Then spread glue on the shaded portion as shown in the figure and glue the part together to complete its bag shape.

3-3 Insert a pencil into the sponson and swell it again to make it into a streamline shape.

3-4 Assemble part ③ in fuselage, the same manner.



1. Fold all tabs outward.

2. Aligning the noses flush, glue ① through ⑩ together in the order shown.

4. Glue the sponson ⑩ to the printed box on the left side of the fuselage. Glue the sponson ⑩ to the printed box on the right side of the fuselage.

5. Cut part ④ along the solid lines up to the dashed lines.

6. Glue ⑤ to the upper side of ④. When dry, cut off the protruding portions.

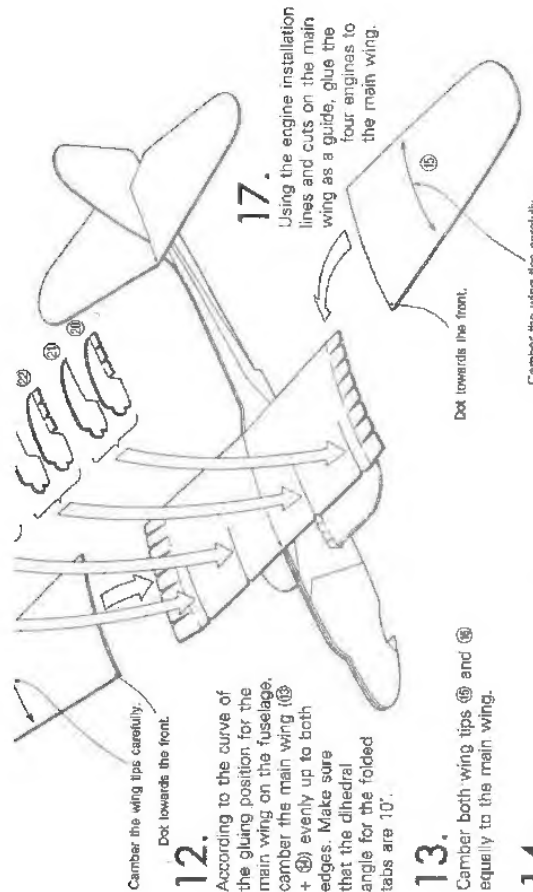
7. Placing a ruler along the dashed line on both edges of the main wing (③ + ④), bend the strips upward to make a dihedral angle of 10°.

8. Camber the main wing (③ + ④) after the curve of its gluing position on the fuselage.

9. Glue the main wing firmly to the fuselage.

10. Glue the horizontal stabilizer ⑦ to the fuselage.

11. Glue the horizontal stabilizer ⑦ to the fuselage.



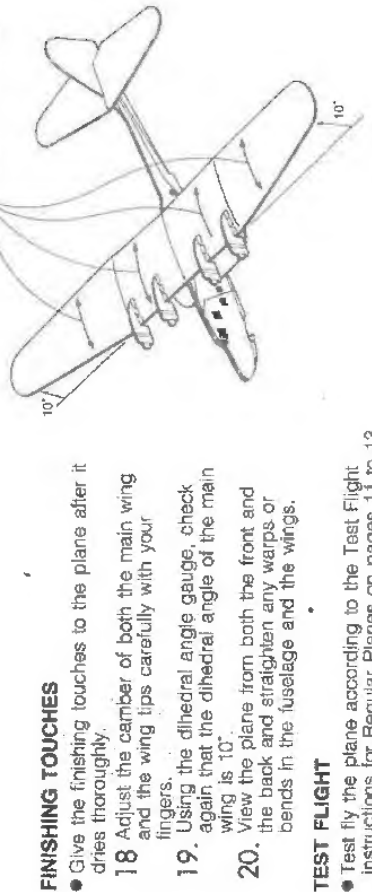
12. Camber the wing tips carefully. Dot towards the front.

13. According to the curve of the gluing position for the main wing on the fuselage, camber the main wing (③ + ④) evenly up to both edges. Make sure that the dihedral angle for the folded tabs are 10°.

14. Camber both wing tips ⑤ and ⑥ equally to the main wing.

15. Using the engine installation lines and cuts on the main wing as a guide, glue the four engines to the main wing.

16. Camber the wing tips carefully.



### FINISHING TOUCHES

- Give the finishing touches to the plane after it dries thoroughly.
- 18 Adjust the camber of both the main wing and the wing tips carefully with your fingers.
- 19. Using the dihedral angle gauge, check again that the dihedral angle of the main wing is 10°.
- 20. View the plane from both the front and the back and straighten any warps or bends in the fuselage and the wings.

### TEST FLIGHT

- Test fly the plane according to the Test Flight instructions for Regular Planes on pages 11 to 13.

However, accidents occurred two years later when planes experienced in flight disintegration twice a large-scale investigation, it was revealed that the accidents were caused by a fatigue fracture of the pressurized cabin. COMET 4 was produced with a built-in countermeasure to prevent fatigue fracture of the pressurized cabin. This led to the improved design, stronger construction and the testing practice for all transport planes with pressurized cabins.

### GLUING INSTRUCTIONS

Glue the parts together in the order indicated.

2. Placing a ruler along the center line of the main wing (8 + 9) make a dihedral angle of approximately 10°.
3. Aligning the noses flush, glue (1) through (7) together in the order shown.
4. Using the dihedral angle gauge, make a dihedral angle of approximately 7° on the horizontal stabilizer (10) and attach it to the fuselage.
5. Fold all tabs outward.
6. Glue (9) to the underside of (8). When dry cut off the protruding portions.
7. Draw the center line on the underside of the main wing (8 + 9). (Refer to [NOTE] on page 50.)

Arrows point forward.

### FINISHING TOUCHES

- Give the finishing touches to the plane after it dries thoroughly.
- 8. Camber the main wing slightly with your fingers.
- 9. Place the dihedral angle gauge at the underside of the main wing and make sure the dihedral angle for the main wing is 10°.
- 10. Place the dihedral angle gauge at the underside of the horizontal stabilizer, then make sure the dihedral angle for the horizontal stabilizer is 7°.
- 11. View the plane from the front and the back and straighten any warps or bends in the fuselage and the wings.

### TEST FLIGHT

- Test fly the plane according to the Test Flight instructions for Regular Planes on page 11 to 13.

the main wing and suppress of wing flutter. Based on this technology, Boeing developed the jet tanker KC 135 and furthermore put the first passenger jet, the Boeing 707 in practical use in the U.S.A. (first flight in 1954). This passenger jet, compared to planes with reciprocating engines, resulted in flights at twice the speed and payload capacity. That is, almost four times in transport effectiveness.

### GLUING INSTRUCTIONS

Glue the parts together in the order indicated.

2. Aligning the noses flush, glue (1) through (7) together in the order shown.
3. Using the dihedral angle gauge, make a dihedral angle of 7° on the stabilizer (10). Then glue it to the fuselage.
4. Placing a ruler along the center line of the main wing (8 + 9) make a dihedral angle of approximately 10°.
5. Glue the main wing (8 + 9) firmly to the fuselage aligning the center line of the main wing with that of the fuselage.
6. Placing a ruler along the center line of the main wing (8 + 9) make a dihedral angle of approximately 10°.
7. Glue (9) to the underside of (8). When dry cut off the protruding portions.
8. Camber the wings carefully.
9. Place the dihedral angle gauge at the underside of the horizontal stabilizer, then make sure the dihedral angle for the horizontal stabilizer is 7°.
10. View the plane from the front and the back and straighten any warps or bends in the fuselage and the wings.

### FINISHING TOUCHES

- Give the finishing touches to the plane after it dries thoroughly.
- 8. Camber the main wings slightly with your fingers.
- 9. Place the dihedral angle gauge at the underside of the main wing and make sure the dihedral angle for the main wing is 10°.
- 10. Placing the dihedral angle gauge at the underside of the horizontal stabilizer make sure the dihedral angle for the horizontal stabilizer is 7°.
- 11. View the plane from the front and the back and straighten any warps or bends in the fuselage and the wings.

### TEST FLIGHT

- Test fly the plane according to the Test Flight instructions for Regular Planes on pages 11 to 13.

coming from the CAPAVELLE or the engine pad with pylons on the front edges of the main wing that were used in Boeing B-47 and 707

## GLUING INSTRUCTIONS

Glue the parts together in the order indicated

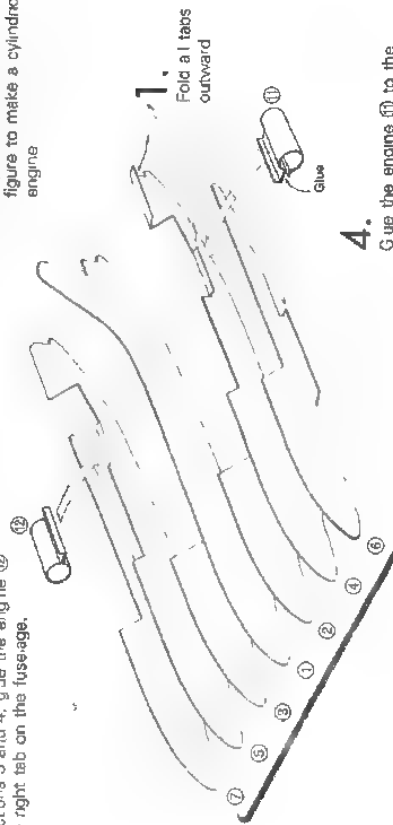
View from the front



5.

In the same manner mentioned in instructions 3 and 4, glue the engine 12 to the right tab on the fuselage.

Fuselage



1. Fold all tabs outward

Glue

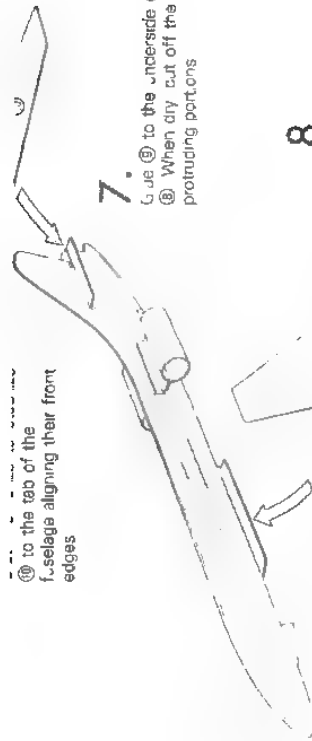
4.

Glue the engine 12 to the left tab on the fuselage.

2.

Aligning the noses flush, glue 1 through 7 together in the order shown

10. to the top of the fuselage aligning their front edges



7.

Glue 10 to the underside of 8. When dry, cut off the protruding portions

8.

Referring to on page 50, draw the center line on the underside of the main wing (8) + (9)

9.

Place a ruler along the center line of the main wing and bend each side up individually to make a dihedral angle of 10°

10.

Glue the main wing firmly to the fuselage aligning the center lines

## FINISHING TOUCHES

Give the finishing touches to the plane after it dries thoroughly

11. Camber the main wing slightly with your fingers

12. Placing the dihedral angle gauge on the underside of the main wing, make sure the dihedral angle for the main wing is 10°

13. View the plane from the front and the back and straighten any warps or bends in the fuselage and wings

Camber the wings carefully



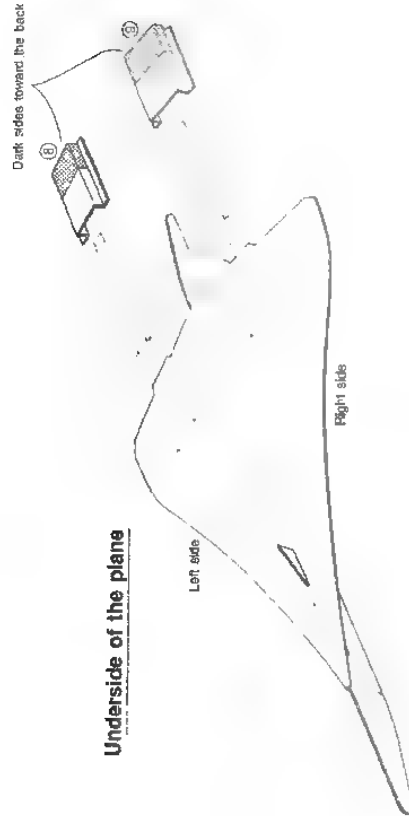
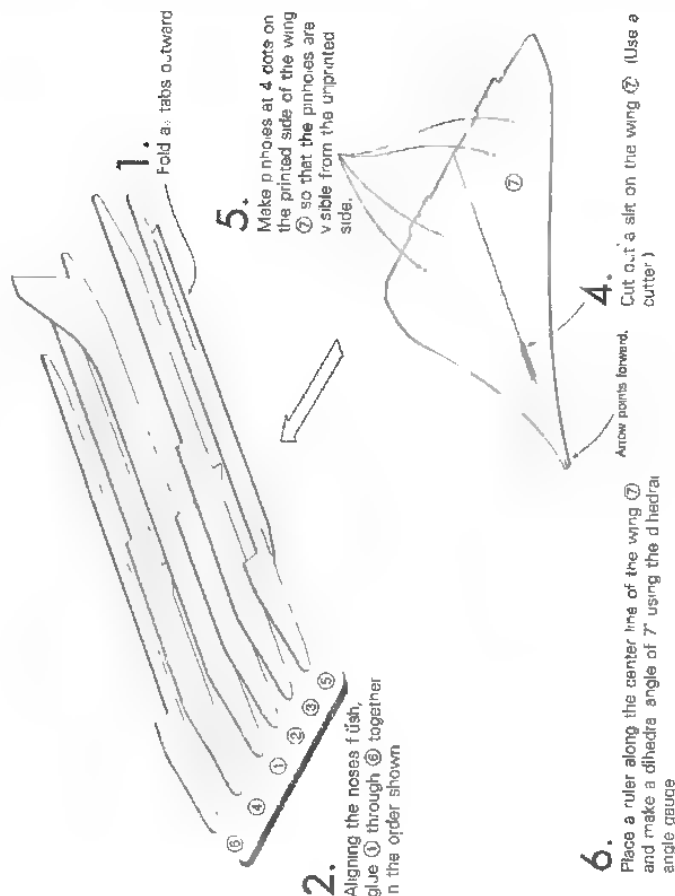
## TEST FLIGHT

Test fly the plane according to Test Flight instructions for Regular Planes on pages 11 to 13

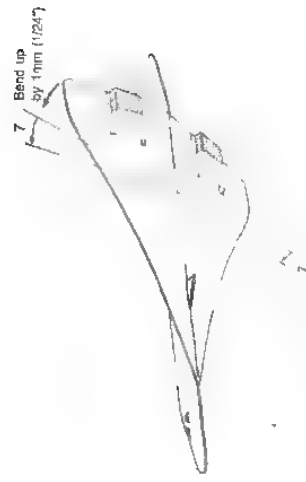
produced. The CONCORDE served by British Airways and Air France have continued without accident, and carrying as many as 144 passengers.

## GLUING INSTRUCTIONS

Glue the parts together in the order indicated.



9. Turn the plane upside-down. Then glue the left engine ③ to the wing aligning the front edge with the pin holes and the rear edge of ③ with the protruding portion
10. Fold the right engine ④ just like ③ and glue it to the wing in the same manner as ③



## FINISHING TOUCHES

- Give the finishing touches to the plane after it dries thoroughly
- 11. Place the dihedral angle gauge at the underside of the wing and make sure the dihedral angle of the wing is 7°
- 12. Bend both trailing edges of the wing up by approximately 1mm (1/24"). Do not forget this or the plane won't fly.
- 13. View the plane from both the front and the back and straighten any warps or bends in the fuselage and the wing

## TEST FLIGHT

- Test fly the plane according to the Test Flight instructions for Delta Wing Planes on page 13

latest model 747-400, some improvements were made. The most conspicuous change in appearance is the winglet at the edge of the wing that extends flight range. Instead of mechanical indicators, in addition the improvement of computers and CRT was introduced in the cockpit to operate the plane more economically with 2 pilots

### GLUING INSTRUCTIONS

Glue the parts together in the order indicated



### FINISHING TOUCHES

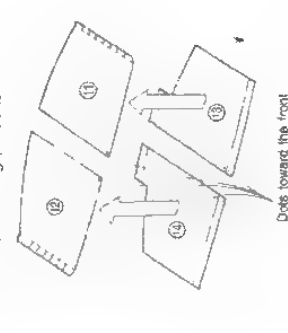
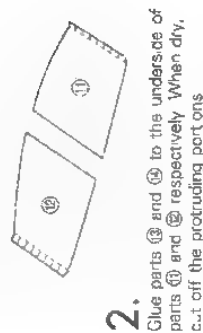
- Give the finishing touches to the plane after it has dried thoroughly.
- Camber the main wing slightly with your fingers.
- Placing the dihedral angle gauge at the underside of the main wing, make sure the dihedral angle of the main wing is 10°.
- Place the gauge at the edges of the main wing and check that the dihedral angle of the wings is 65° against the main wing.
- Placing the dihedral angle gauge at the underside of the horizontal stabilizer, make sure that the dihedral angle is 7°.
- View the plane from the front and the back and straighten any warps or bends in the fuselage and wings.

### TEST FLIGHT

- Test fly the plane according to the Test Flight instruction for Regular Planes on pages 11 to 13.

wing. Because the shape of the central part of the wing resembles a so-called saddle-shaped surface in math, I call this type of wing a MOST (Modified Saddle type) wing. It is constructed as follows

1. Cut parts (1) and (2) along the solid lines up to the dashed lines. Then placing a ruler along the dashed line, bend the resulting strips slightly upward.



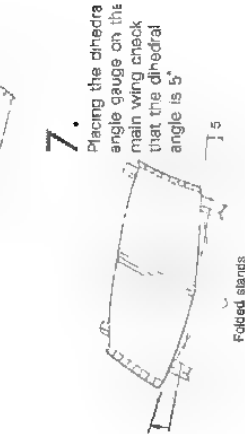
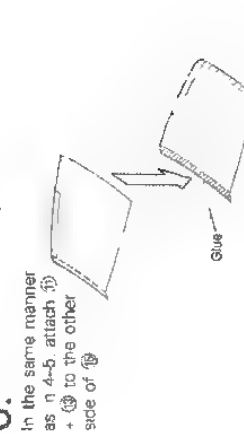
4. Using a ruler along the center line, fold part (5) from the center line to make a 5° angle on both sides. Then curve it carefully with your fingers to fit the curved fuselage top where the main wings are to be attached.



use some thin wire as a  
This curve is called camber



5. Apply glue on half of the underside of (3) and glue onto (2) + (4). (The arrow should point toward the dot.)



8. Putting folded stands under the main wing will be conducive to fast and thorough drying.



Arrow points forward

10"

Dihedral angle gauge

7"

⑧

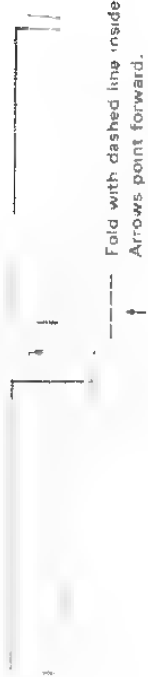
WhiteWings



Arrow points forward

⑨

⑩



Fold with dashed line inside  
Arrows point forward.



Bend-resistant  
direction

WhiteWings®

De Havilland COMET







⑥

⑤

⑦

②

①

④

③



⑥

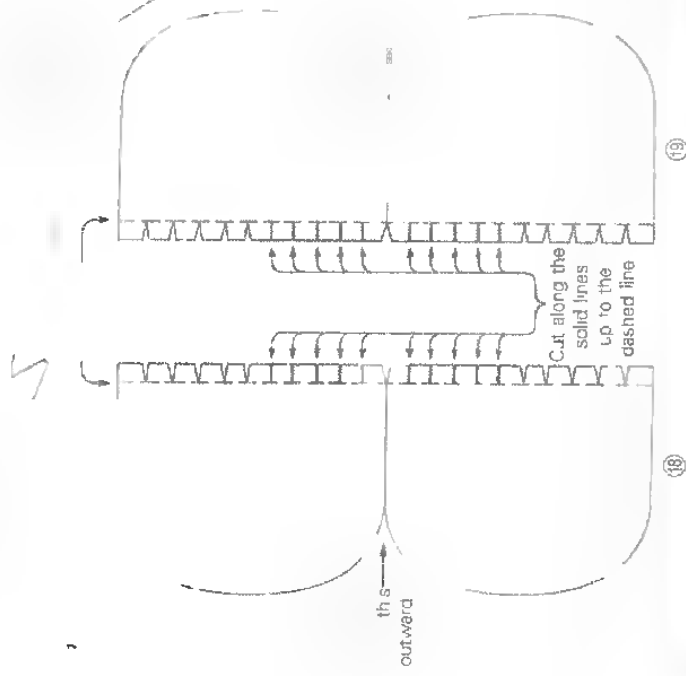


⑦



⑨

②



⑱



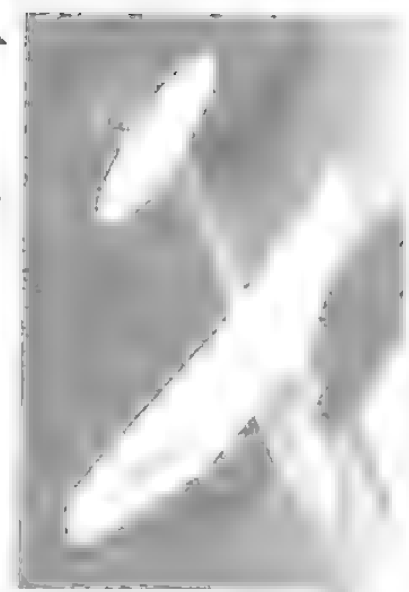
⑲



Dihedral 10° gauge

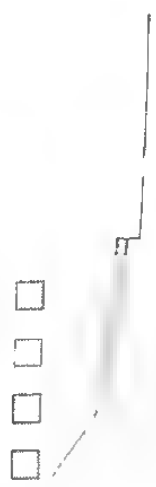
10°

fold with dashed line inside  
Arrows point forward



# WhiteWings®

## Martin M-130 CHINA CLIPPER



Guide lines for engine installation

Arrow points forward

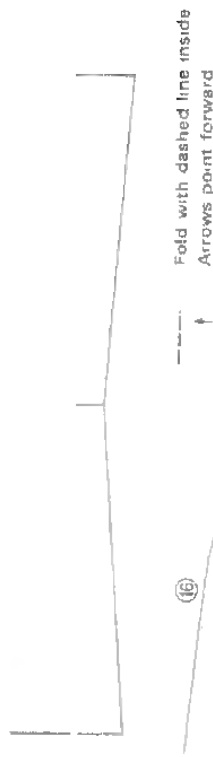
Guide lines for engine installation

Guide lines for engine installation

Arrow points forward

Guide lines for engine installation

13



16

Fold with dashed line inside  
Arrows point forward



Arrow points forward

17



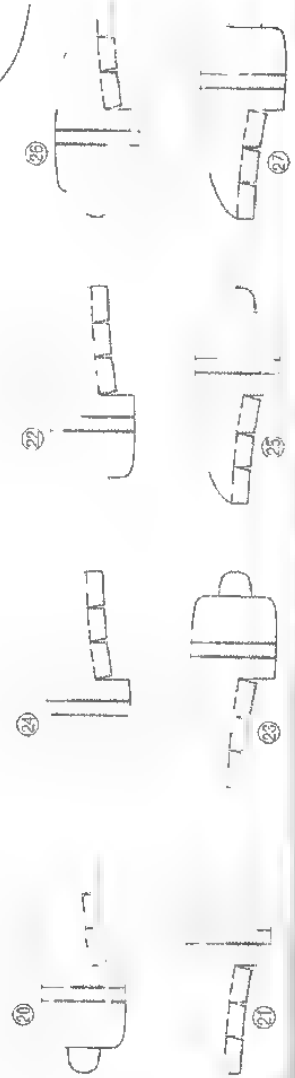
Cut along the solid lines up to the dashed line

Dots toward the front

15

Cut along the solid lines up to the dashed line

WhiteWings



WhiteWings®

Martin M-130 CHINA CLIPPER

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Arrow points forward

⑫

Arrow points forward

⑪

Vertical angle gauge

13°

13°

# WhiteWings®

## Racer 538 Wren

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Arrow points forward

⑨

# WhiteWings

Arrow points forward

⑩

— — — Fold with dashed line inside  
↑ Arrows point forward





⑤

③

②

⑦

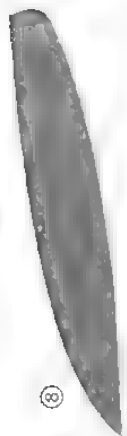


④

①

⑥

⑧



Arrow points forward

Wings

18

Installation line for the engine  
Make the dihedral angle along this line

Arrow points forward

Installation line for the engine  
Make the dihedral angle along this line

15

points forward

Arrow points forward

12

Fold with dashed line inside  
Arrow's point forward

8"

Digital angle gauge

Bend resistant  
direction

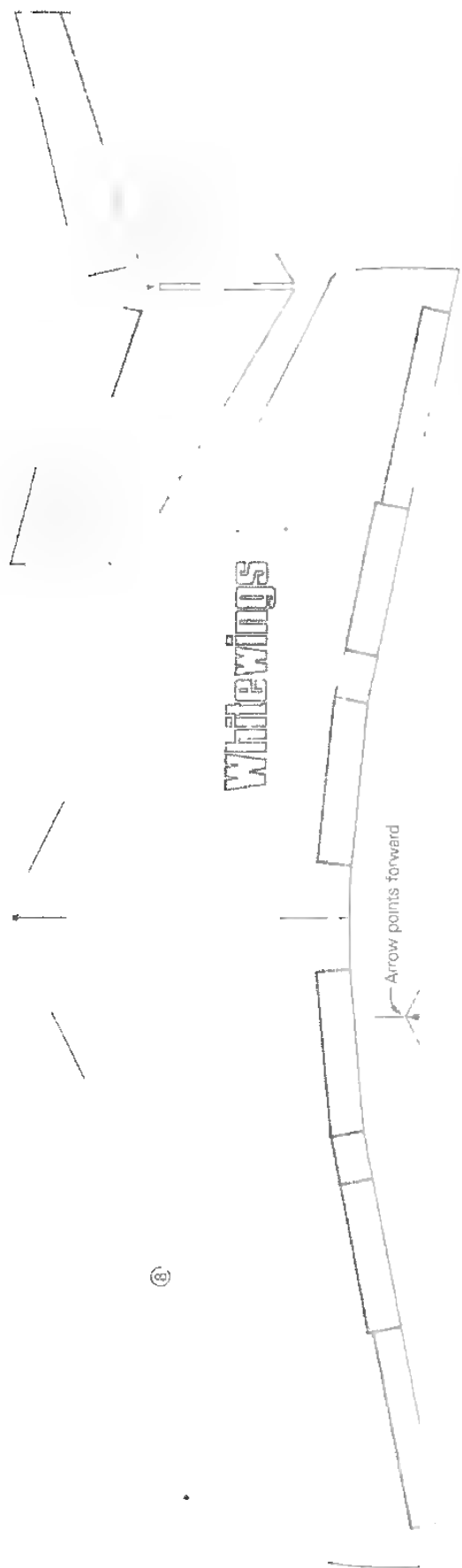
19

WhiteWings®

De Havilland D.H. 89 DRAGON RAPIDE

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WhiteWings

10"

Dihedral angle gauge

7"

--- Fold with dashed line inside  
↑ Arrows point forward



WhiteWings®

First Jet Transport in U.S.A.





WhiteWings

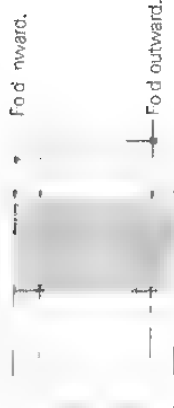
Dihedral angle gauge

⑦

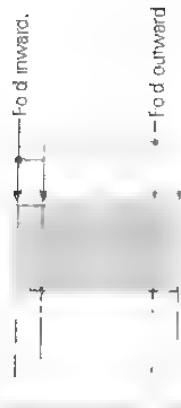
Arrow points forward

Cut out this

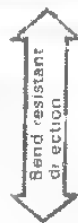
⑨ - Right engine



⑧ - Left engine



--- Fold with dashed line inside  
T Arrows point forward



WhiteWings<sup>®</sup> Aérospatiale/BAC CONCORDE

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⑥

④

-----

-----

/

7

⑤

②

①

③

-- Fold with dashed line inside  
Arrows point forward

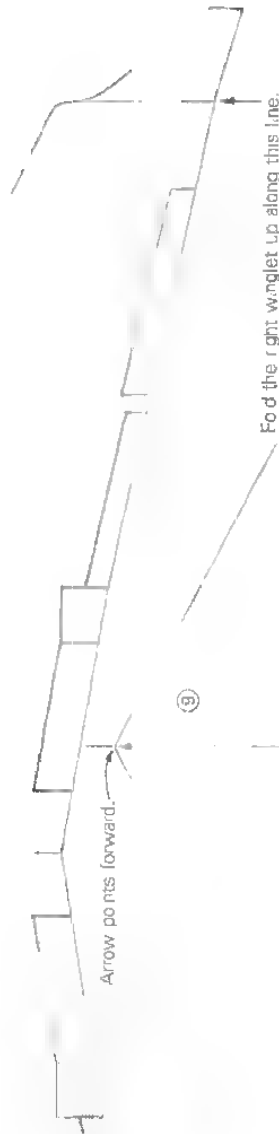


points



**WhiteWings**

⑧



Fold the left winglet up this

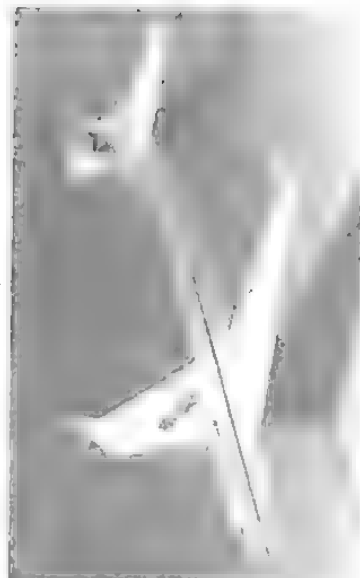
Fold the right winglet up along this line.

⑩



**WhiteWings**

Leading Large-scale  
Passenger Plane



-----

⑥

.....



-----

④



②

.....

⑦



-----

③

①

⑤



Arrow points forward

10

8

WhiteWings

Arrow points forward

9

12

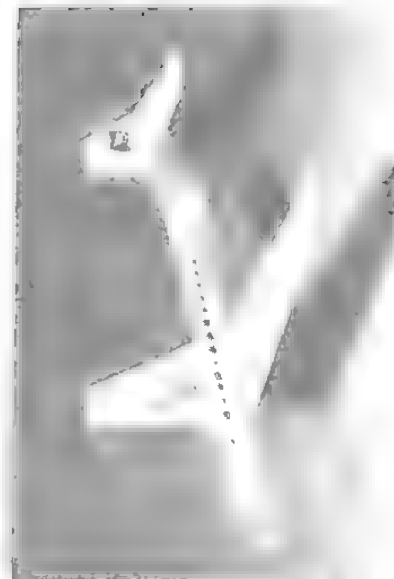
11

The part for the cylindrical engines

Fold with dashed line inside.

Fold with dashed lines inside

Fold with dashed line inside  
Arrows point forward



WhiteWings® Aérospatiale SE 210 CARAVELLE

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0 2 6



Cut along the solid line  
up to the dashed line.



④

⑦



Cut along the solid  
up to " + dashed



⑤



③



1

10"

Dihedral angle gauge

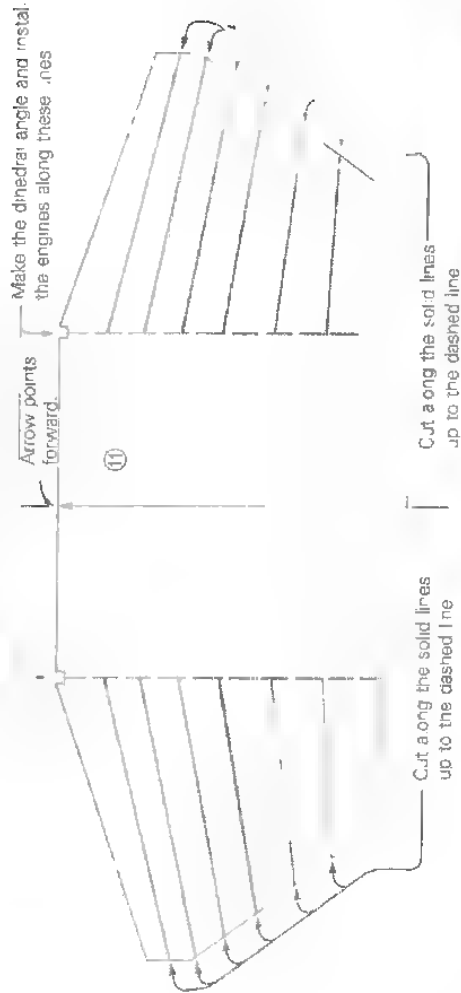
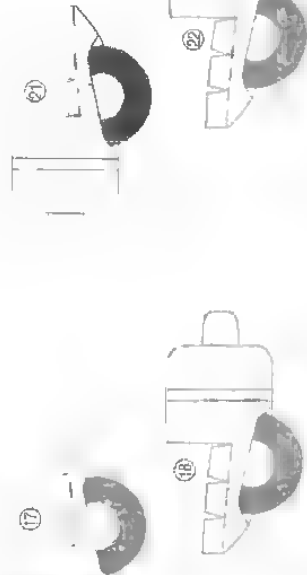
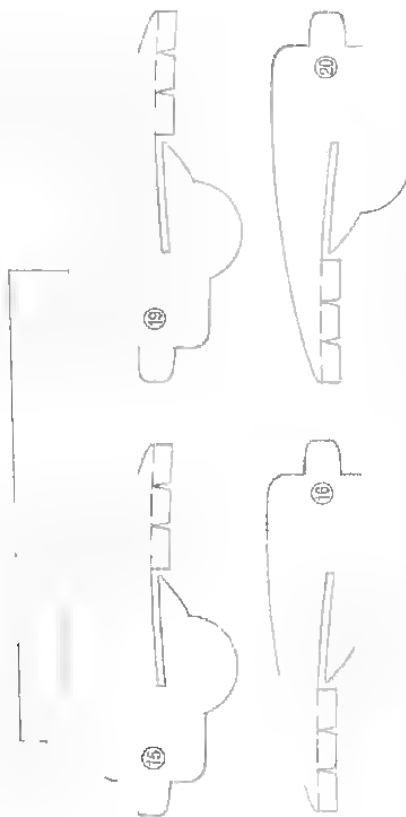
①

②



13

# WhiteWings



--- Fold with dashed line inside  
↑ Arrows point forward



# WhiteWings®

Douglas DC-3

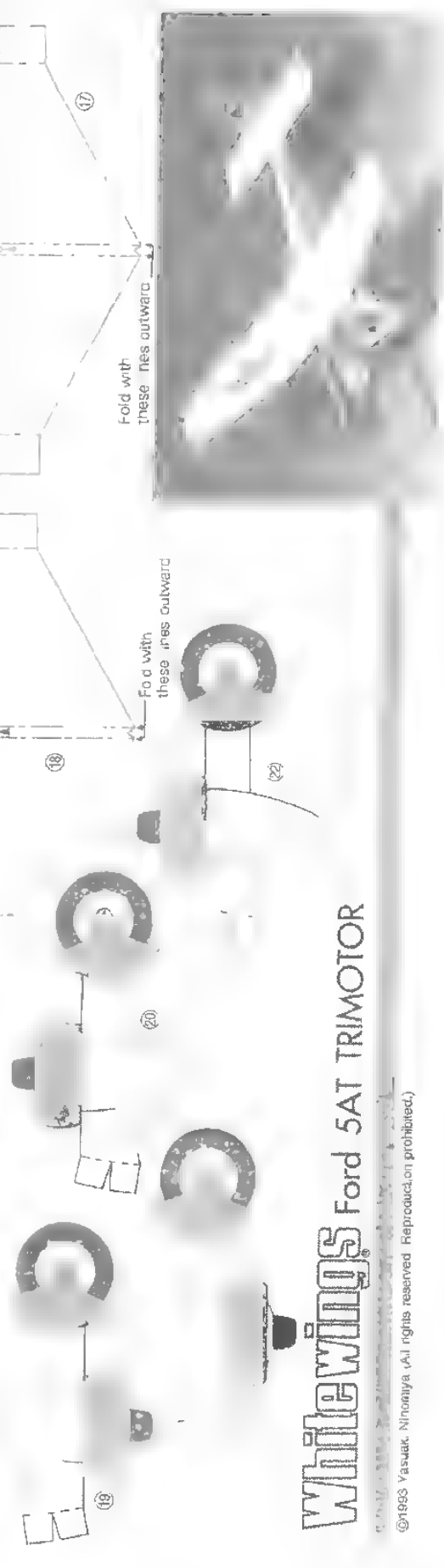
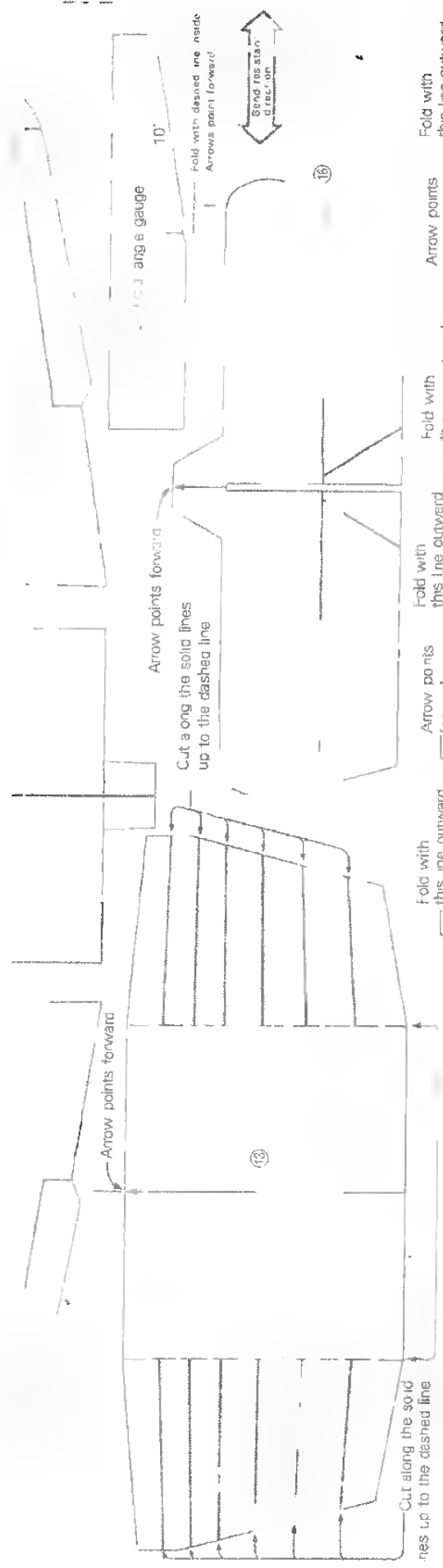
Dihedral angle gauge







White Wings



White Wings® Ford 5AT TRIMOTOR



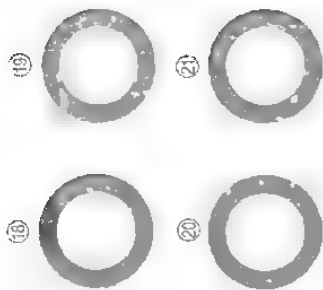
Arrow points forward.

Make the dihedral angle along this line

12

Make the dihedral angle along "

Whitewings



13

Gear gauge

Arrow points forward.

Fold with dashed line inside  
Arrows point forward

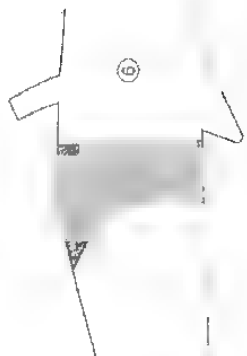
Fold with  
these lines outward  
this line outward

Fold with  
this line outward

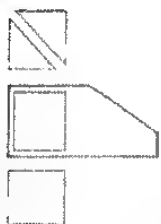
line outward

Whitewings Junkers F 13

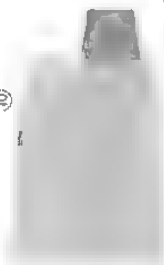
(continued)



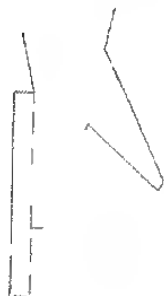
Cut off the slit



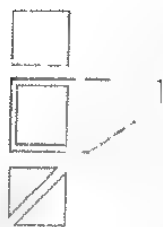
10



9



Dhedra:



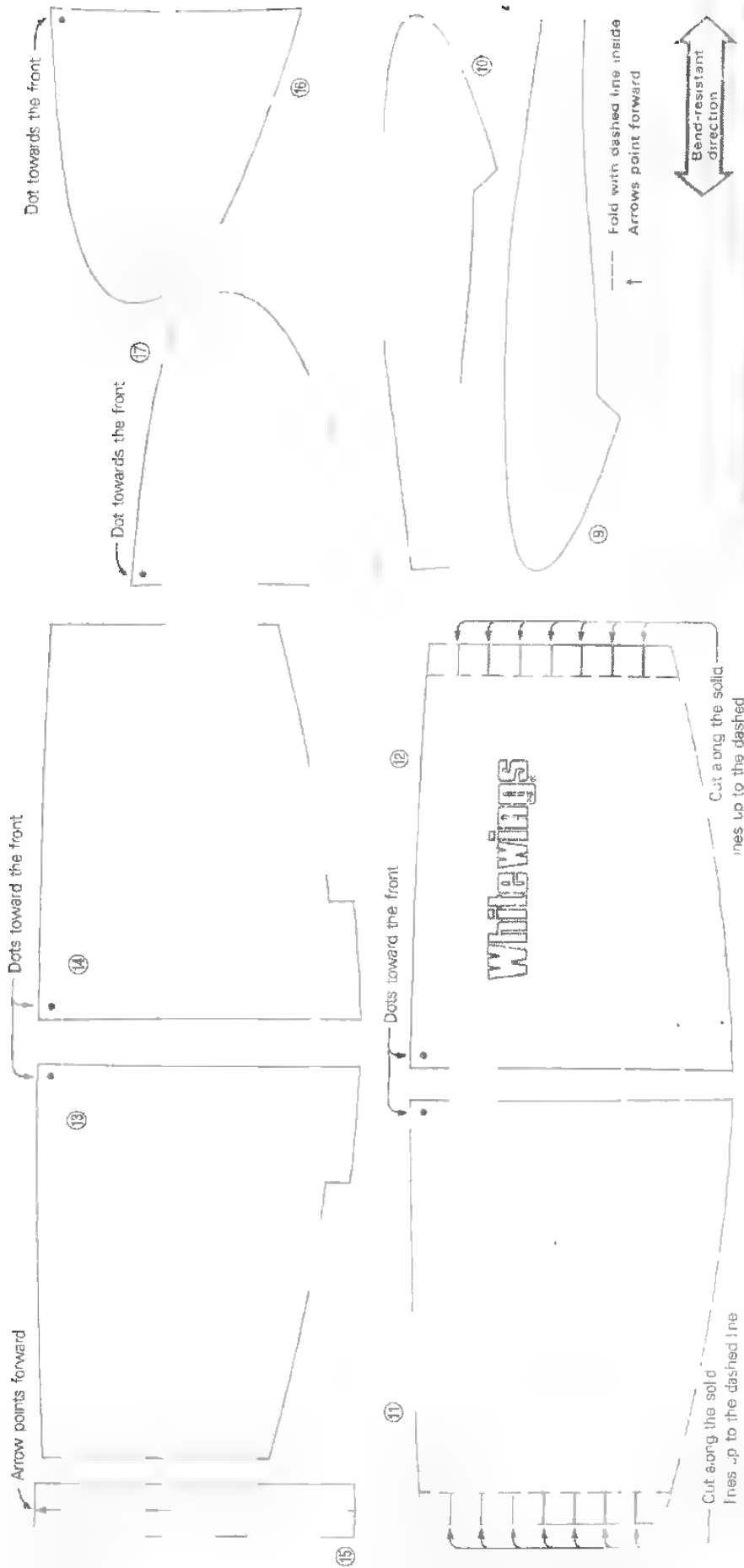
8



2







# White Wings®

Racer 539 Hawk

Dihedral angle gauge

30°

5°

5°

④

⑧

③



②



③

⑦

⑩

①

⑤

Arrow points forward

Dots toward the front

Dot towards the front

Dot towards the front

Dots toward the front

Cut along the solid lines up to the dashed line

Cut along the solid lines up to the dashed line

Fold with dashed line inside  
Arrows point forward

Bend-resistant direction

Dihedral angle gauge

30°

30°

5°

5°

# WhiteWings®

## Racer 540 Crane

④

⑤

⑥

Arrow points forward

⑧

⑨

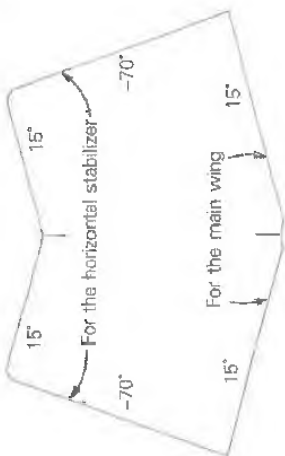
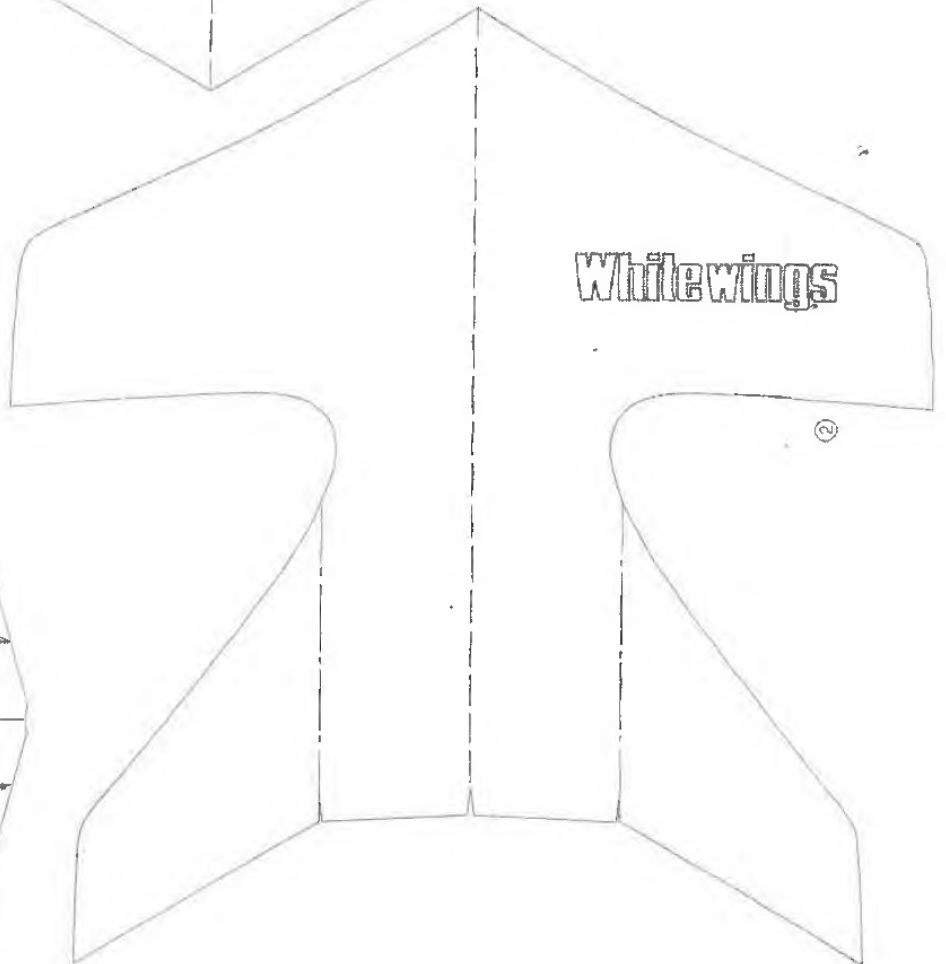
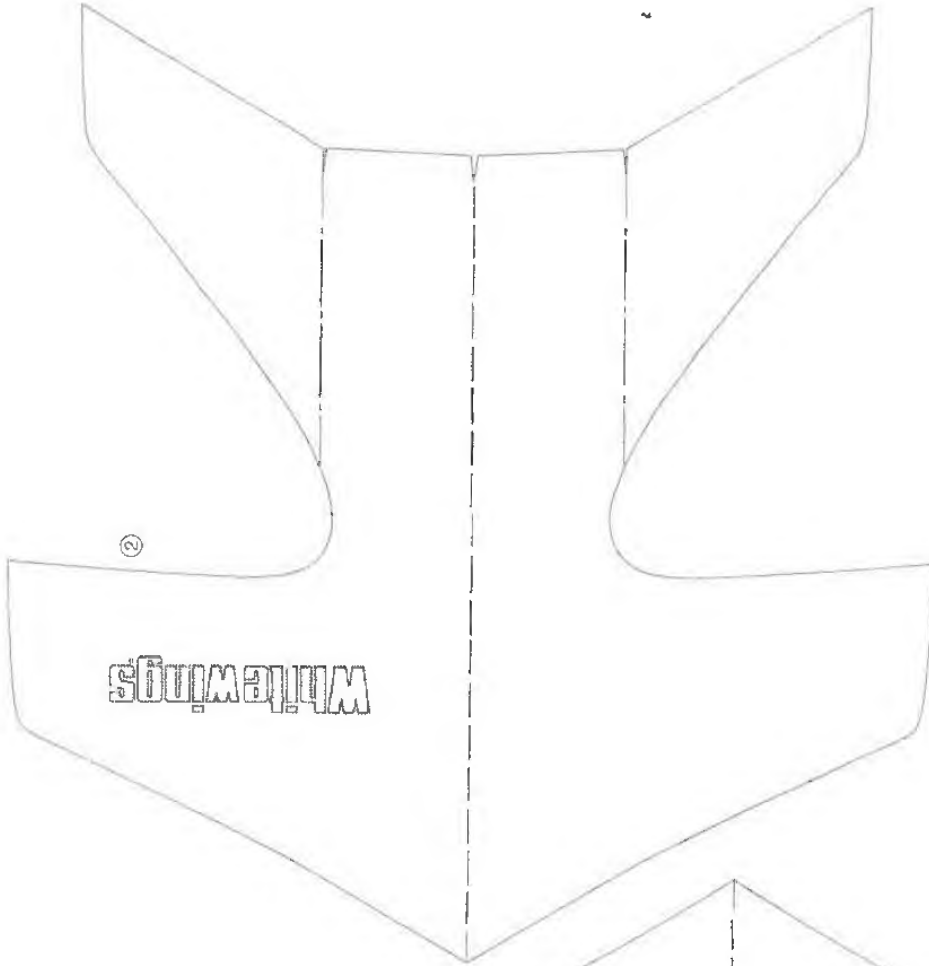
⑦

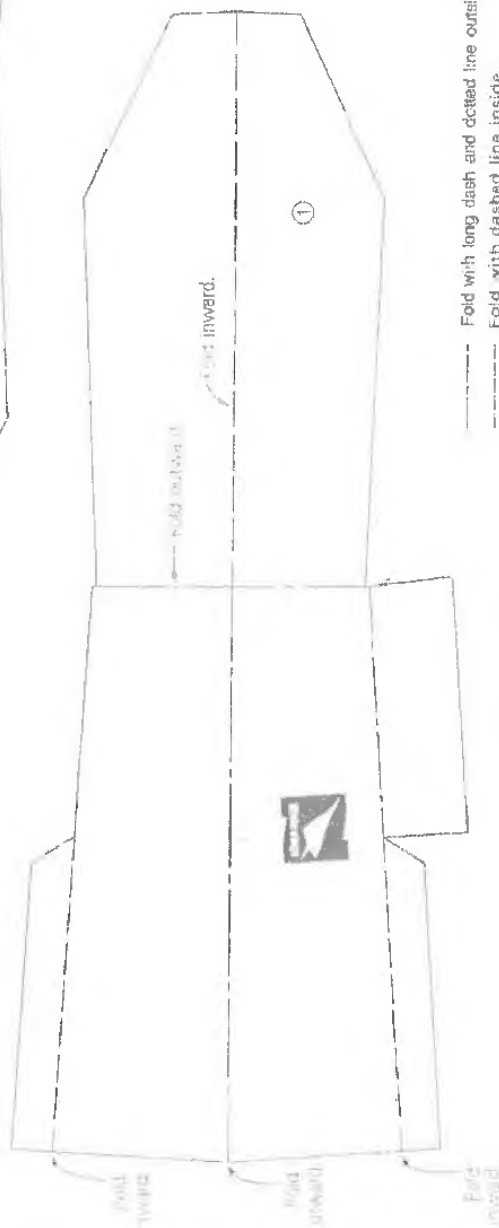
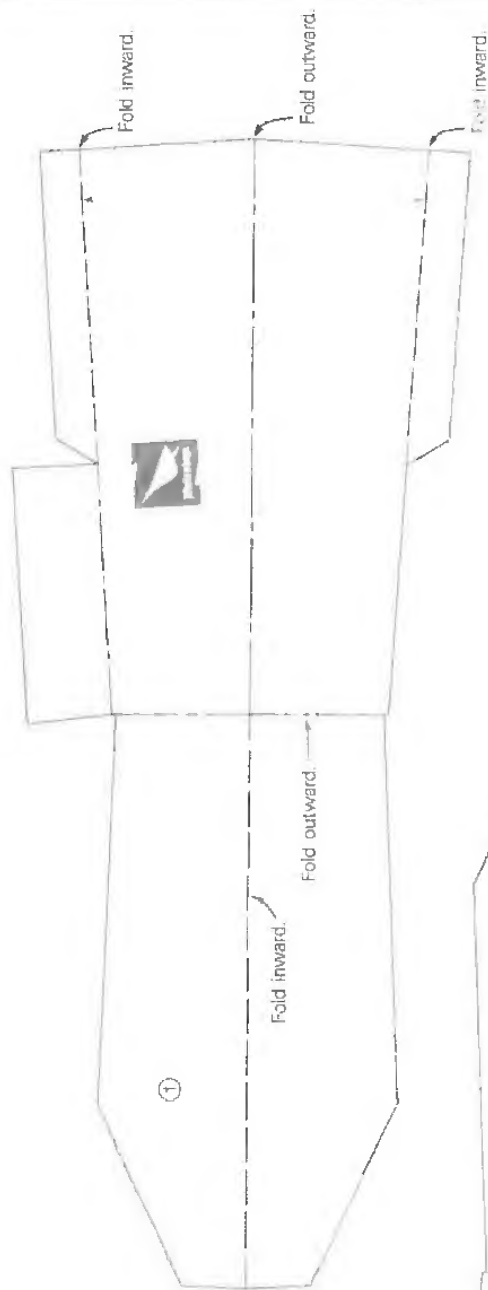
①

②

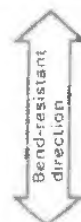
③



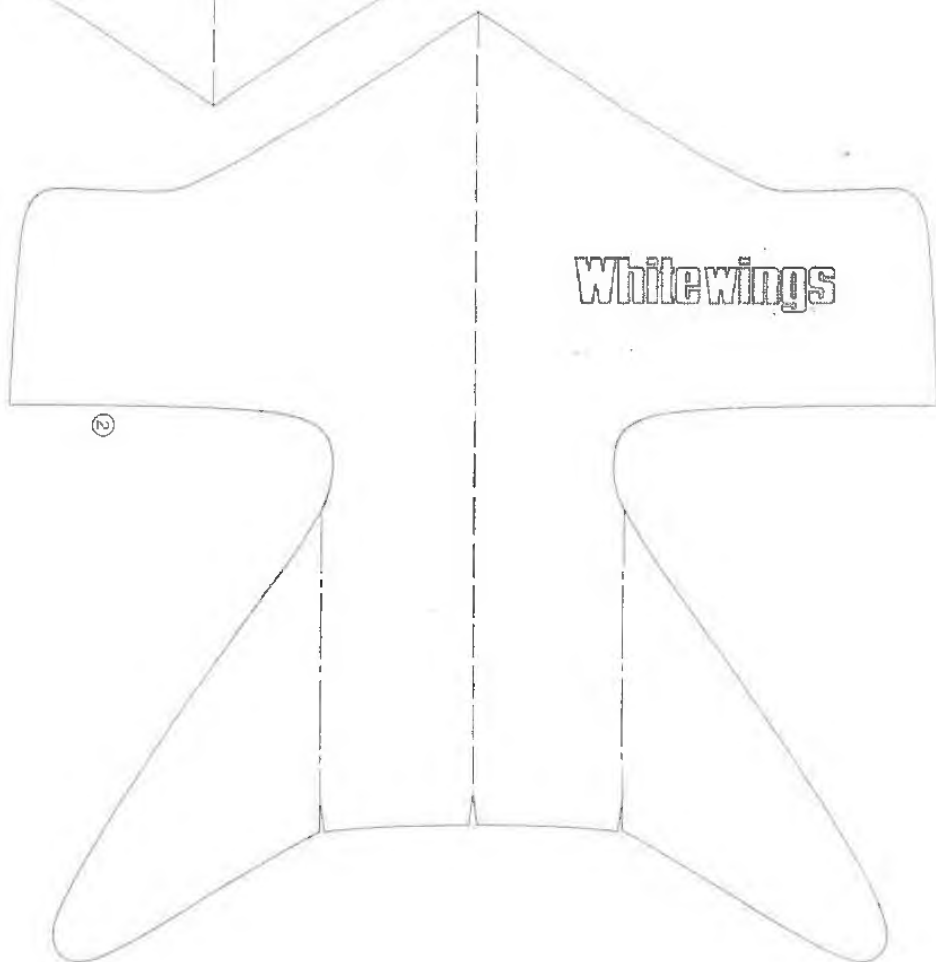
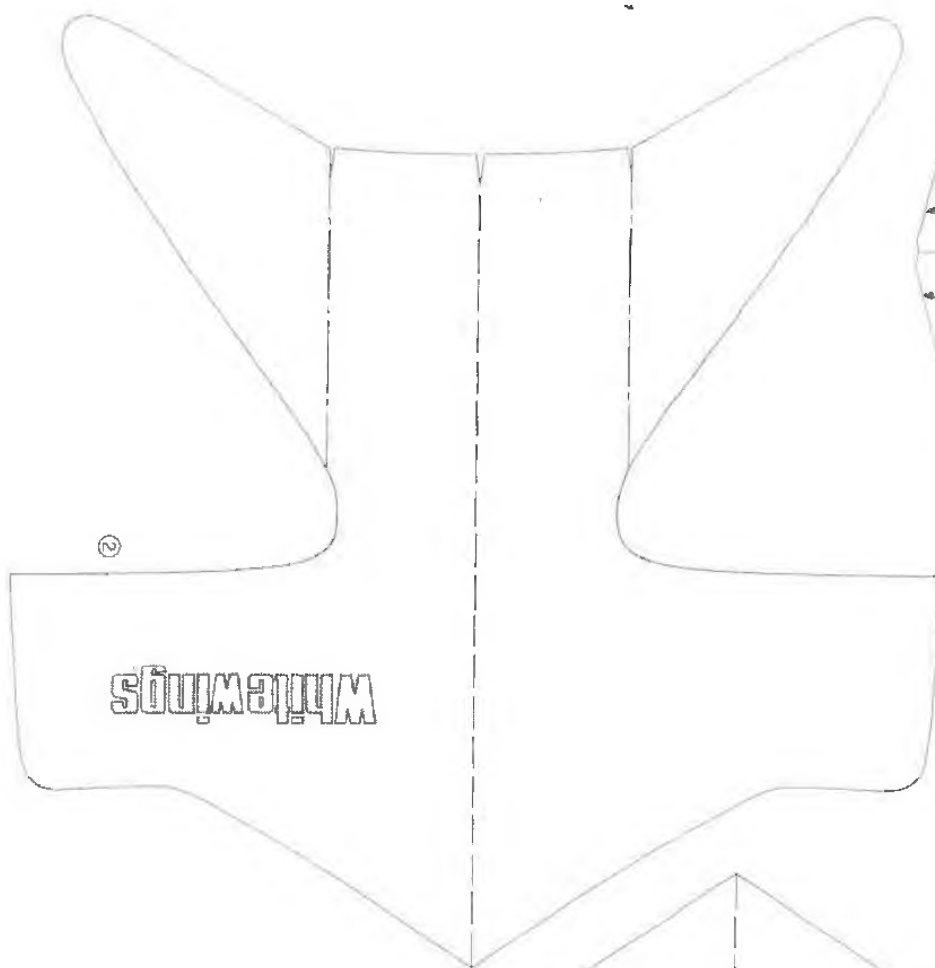
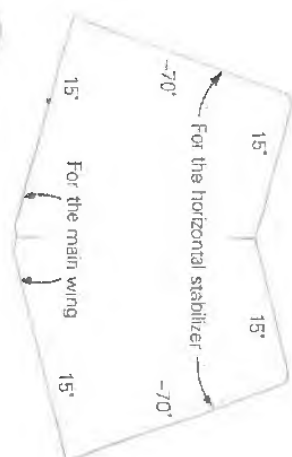




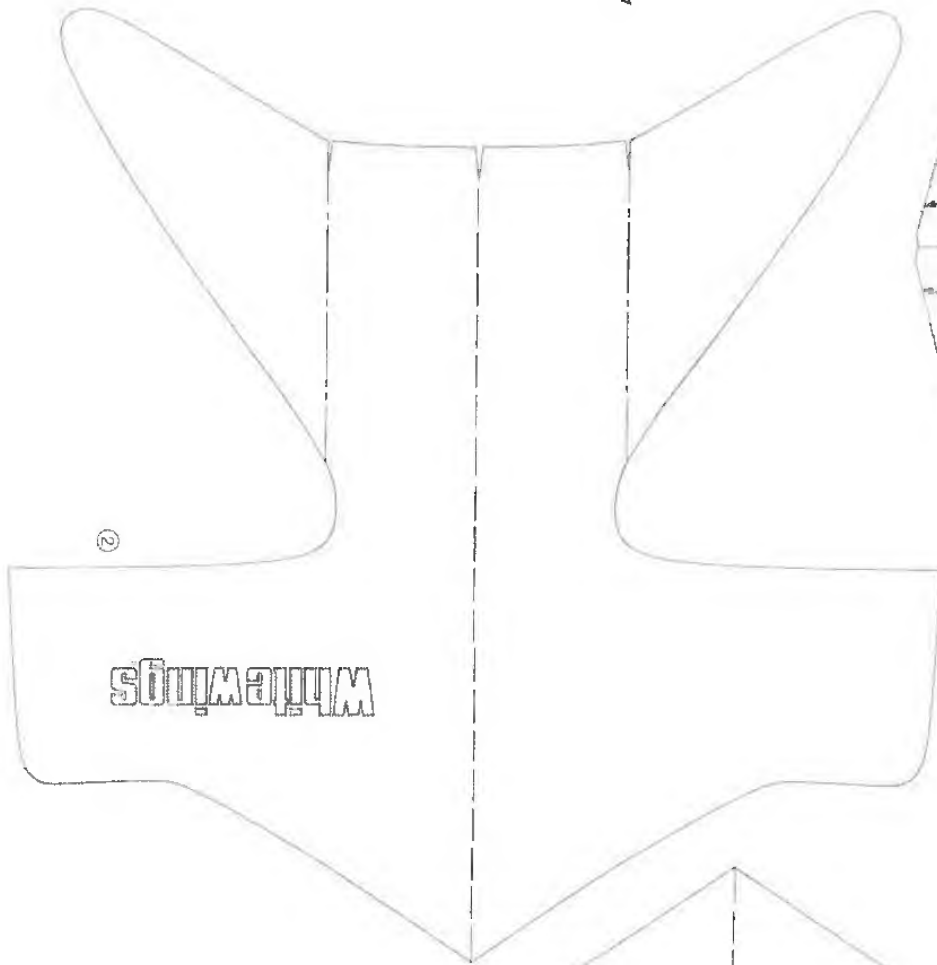
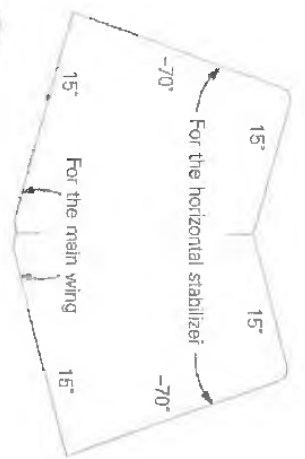
--- Fold with long dash and dotted line outside.  
- - - - - Fold with dashed line inside.



**WhiteWings®** Simple Plane 2

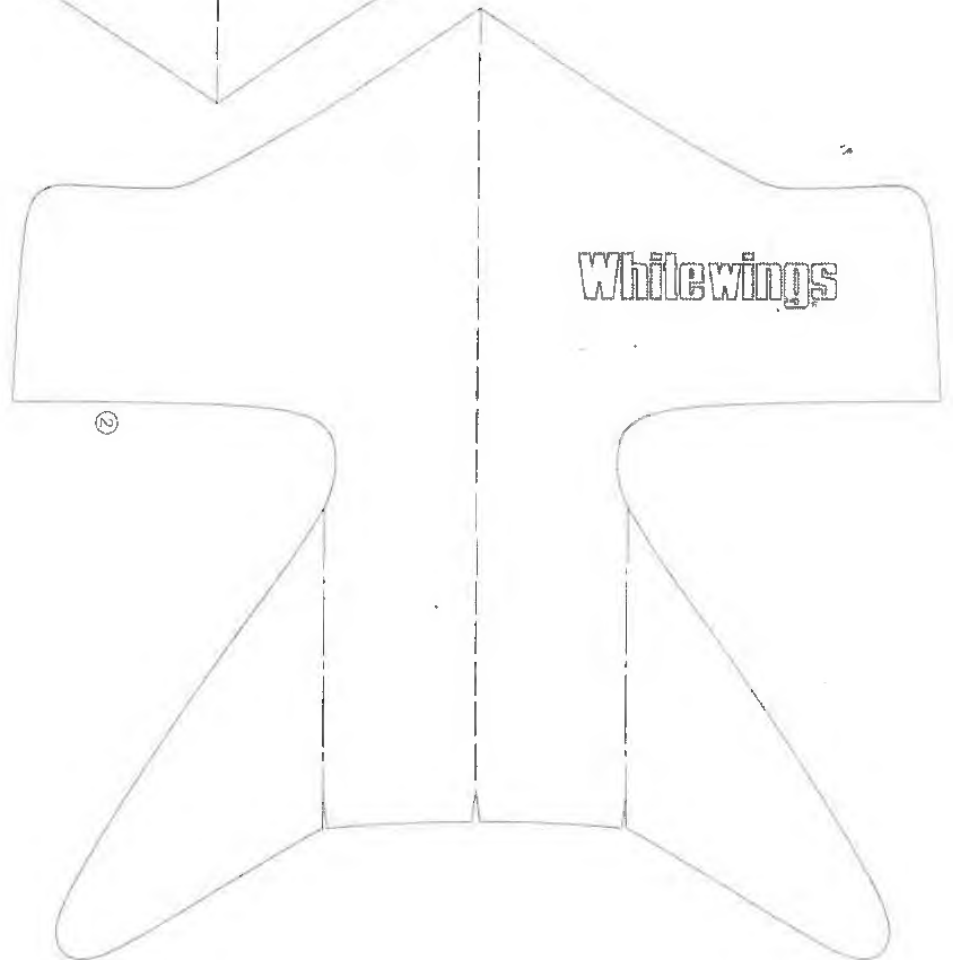






②

WhiteWings



②

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